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10/071,561	02/08/2002	Klaus Hartig	44046.203.180.2	9865

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EXAMINER

GLESSNER, BRIAN E

ART UNIT	PAPER NUMBER
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3635

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/071,561

Applicant(s)

HARTIG ET AL.

Examiner

Brian E. Glessner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 21-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 26-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6,8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The following office action is in response to the election filed on June 11, 2003. The applicant elected Group II, claims 12-20 and 26-38. Upon further consideration, the examiner will also examine claims 1-11 of Group I. However, claims 21-25 remain restricted and are not being examined at this time. Claims 1-20 and 26-38 are rejected as set forth below.

Election/Restrictions

1. Applicant's election with traverse of the restriction requirement made in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the examination of all of the claims would not be a serious burden on the examiner. This is not found persuasive because the search for the method claims is considerably different than the search for the window structure or the transparent pane. The method claims are classified in a totally different class and would be better searched in said other class.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 27-30 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claims 27, 29, and 33-36, the scope of the said claims is indefinite because the applicant has not defined any material that makes up the active coating or any material that makes up the glazing compound. Therefore, the examiner is not certain as to what the scope of the claim encompasses. The same situation exists in claim 29. Appropriate correction is required.

5. Claim 32 recites the limitation "the substrate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 6, 7, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Cathers (4,587,769).

In regard to claim 1, Cathers discloses a transparent pane 20 having generally opposed first and second major surfaces, i.e. sides, each major surface or side bearing a "functional coating", i.e. a metal containing film, and have a peripheral region that is substantially free of the functional coating, column 1, lines 26-34 and column 3, lines 56-67. The examiner would like to

point out that Cathers discloses that both sides of the glass sheets are ground, i.e. to remove the coating from each side of the glass sheet.

In regard to claims 2 and 6, Cathers discloses the claimed invention, wherein said coating on each surface is an "active coating".

In regard to claim 7, Cathers discloses the claimed invention, wherein said coating-free peripheral region on each major surface extends a predetermined distance inwardly from an edge of the substrate. The examiner would like to point out that any distance is a "predetermined" distance, i.e. the width of the grinding wheel is a given, or predetermined width. Therefore, the coating-free region produce by the grinding wheel has a predetermined width.

In regard to claim 10, Cathers discloses the claimed invention of a transparent pane. Claim 10 contains the same limitations as claims 1 and 2 above. Therefore, claim 10 is rejected on the same grounds of rejection set forth above with respect to claims 1 and 2.

8. Claims 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Thiel (5,873,203).

In regard to claims 37 and 38, Thiel discloses a frameless glazing assembly comprising a transparent pane 28 having generally opposed first and second major surfaces, at least one of said major surfaces bearing an active coating 42, 44, 50, 52, or 54 and having one or more surface regions that are each substantially free of the active coating, one or more mounts 38 bounding a glazing opening in which the transparent pane is mounted, each mount defining a mounting surface 34 or 36 against which said coated pane surface is retained, and a bead of glazing compound 32 disposed between each mount surface and a respective one of said coating-free surface regions. The active coating on the transparent pane is a photocatalytic coating, abstract.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3-5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cathers (4,587,769) in view of Thiel (5,873,203).

In regard to claims 3, 4, and 11, Cathers discloses the claimed invention, except for specifically disclosing that said active coating is a photocatalytic coating that comprises titanium oxide. Thiel teaches that it is known to provide a photocatalytic coating containing titanium oxide on a glass windowpane, abstract and column 11, lines 19-26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Thiel's coating on Cathers' glass sheet, because Thiel's coating is self-cleaning and will remove organic components from the glass sheet.

In regard to claim 5, Cathers discloses the claimed invention except for specifically disclosing that the functional coating is a low-emissivity coating. Thiel teaches that it is known to use low emissivity coatings on glass sheets, column 6, lines 4-13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a low emissivity coating into Cathers' invention, because the low-emissivity coating will help to block harmful rays of the sun. Further, low-emissivity coatings are well known and widely used in the art on glass windows for the above purpose.

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11. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cathers (4,587,769).

In regard to claims 8 and 9, Cathers discloses the claimed invention except for specifically disclosing that said predetermined distance is less than about 1 inch or about $\frac{1}{2}$ inch. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the predetermined distance less than about 1 inch or about $\frac{1}{2}$ inch, because said distance will be sufficient to apply adhesive to so that the glass sheet could be held in a window frame or adhered to a spacer as is well known in the art. By making the distance less than about 1 inch or about $\frac{1}{2}$ inch, the coating-free portion will not be visible when the glass sheet is used in a window unit.

12. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel (5,873,203) in view of Cathers (4,587,769).

In regard to claim 12, Thiel discloses a multiple pane insulating glass unit 20 comprising two spaced apart panes 22, 24 and a spacer 38 joining confronting, inner peripheral surfaces of the panes, the spacer and the confronting surfaces of the panes together defining a between-pane space, at least one of the panes having an outer surface bearing a functional coating 50 or 52 (column 6, lines 4 and 5). Thiel does not specifically disclose that said outer surface has a peripheral region that is substantially free of the functional coating. Cathers teaches that it is known to remove coatings from two sides of glass sheets where adhesives or sealants are applied in order to provide direct contact with the glass to prevent a reaction with the film, column 1, lines 26-34, and column 3, lines 56-67. It would have been obvious to one having ordinary skill in the art at the time the invention was made to remove the coating from the outer surface

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peripheral edge of Thiel's glass sheets, because when the glass unit is placed in a frame, it will be able to be adhered to said window frame around the coating free peripheral edge portion.

Therefore, one will not have to worry about a reaction taking place between the adhesive and the coating.

In regard to claims 13-15, Thiel in view of Cathers disclose the basic claimed invention, wherein said coating is an active photocatalytic coating comprising titanium oxide, abstract and column 11, lines 19-26. The examiner would like to point out that although Thiel does not specifically refer to his coating as an "active coating," his coating has the same features as applicant's coating. Therefore, they are both active coatings.

In regard to claim 16, Thiel in view of Cathers disclose the basic claimed invention, wherein Thiel further teaches that said coating could be a low emissivity coating, column 6, line 9. Therefore, since Thiel discloses coatings 42, 44, 50 and 52 on the inner surfaces, the low-emissivity coating is on the inner surface. Further, the examiner would like to point out that the applicant even states that "low-emissivity coatings are well known in the present art," page 1, line 13.

In regard to claim 17, Thiel in view of Cathers disclose the basic claimed invention, wherein said coated inner surface has a peripheral region that is substantially free of said low-emissivity coating, figures 2-6.

13. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel (5,873,203) in view of Cathers (4,587,769) and further in view of Bobel (2,723,427).

In regard to claim 18, Thiel in view of Cathers disclose the basic claimed invention except for specifically disclosing a frame, wherein at least one edge region of the insulating glass

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unit is received, wherein a bead of glazing compound is disposed between a mounting surface of the frame and said coating-free peripheral region of the insulating glass unit. Bobel teaches that it is known to place a window unit comprising two pane of glass spaced by a spacer in a window frame and to apply a bead of glazing 39 between the frame and the window unit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place Thiel's window unit in Bobel's frame, because by having the window unit in the frame, it can be mounted in the opening of a building to provide light into the building.

In regard to claims 19 and 20, Thiel in view of Cathers and Bobel disclose the basic claimed invention except for specifically disclosing that said glazing compound comprises an organic material. Thiel teaches the use of polyisobutylene adhesive/sealant. Said adhesive/sealant comprises at least one organic compound, for example water. Said adhesive/sealant will also provide an excellent seal against water.

14. Claims 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gifford et al. (2,781,561) in view of Thiel (5,873,203).

In regard to claim 26, Gifford discloses a glazing assembly comprising a transparent pane 35 having generally opposed first and second major surfaces, a frame in which at least one edge of the pane is received, the frame having a mounting surface against which said pane surface is retained, and a bead of glazing compound 29 disposed between the mounting surface of the frame and a peripheral region of said pane surface, the glazing compound being shielded from direct contact with the pane by a barrier layer 24 provided between said pane surface and the glazing compound. Gifford does not specifically disclose that said pane surface has an active coating thereon. Thiel teaches the use of a window unit comprising at least one pane having an

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active coating thereon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Thiel's window unit for Gifford's window unit, because Thiel's window unit is self-cleaning and will remove organic components from the glass sheet.

In regard to claim 27, Gifford in view of Thiel disclose the basic claimed invention, wherein Thiel further teaches the use of a glazing compound in the form of polyisobutylene. Therefore, said glazing compound comprises a material to which the active coating is degenerative.

In regard to claim 28-32, Gifford in view of Thiel disclose the basic claimed invention, wherein the active coating is photocatalytic (abstract) and the glazing compound comprises an organic material. Thiel teaches the use of polyisobutylene adhesive/sealant. Said adhesive/sealant comprises at least one organic compound, for example water. Said adhesive/sealant will also provide an excellent seal against water. Said barrier layer comprises a material that is durable to the active coating. Thiel's glazing compound also comprises an inorganic material and provides a substantially water-proof seal between the mounting surface of the frame and the coated panel surface. The barrier and the glazing compound (substrate?) are part of the multiple-pane insulating glass unit mounted in the frame.

15. Claims 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bobel (2,723,427) in view of Thiel (5,873,203).

In regard to claims 33-36, Bobel discloses a glazing assembly comprising a transparent pane 11 or 12 having generally opposed first and second major surfaces, a frame in which at least one edge of the pane is received, the frame having a mounting surface against which said pane

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surface is retained, and a bead of glazing compound 39 disposed between the mounting surface of the frame and a peripheral region of said pane surface, the glazing compound being in direct contact with the pane. Bobel does not specifically disclose that said pane surface has an active coating thereon, or that said glazing is durable to the active coating. Thiel teaches the use of a window unit comprising at least one pane having an active coating thereon and a glazing compound in the form of polyisobutylene, which comprises an inorganic material. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute Thiel's window unit and glazing compound for Bobel's window unit and glazing compound, because Thiel's window unit is self-cleaning and will remove organic components from the glass sheet. Further, Thiel's glazing compound will produce a watertight seal and be somewhat flexible to allow the window unit to expand and contract to a certain degree. Bobel in view of Thiel's transparent pane is also part of a multiple-pane insulating glass unit mounted in said frame.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Palmer, Guhl et al., Iguchi et al., Sylvester, Finley, Ikenaga et al., Palfey, Haas, and Ritz.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Glessner whose telephone number is 703-305-0031. The examiner can normally be reached on Monday-Friday 7:00-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl D. Friedman can be reached on 703-308-0839. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

B.G.
August 20, 2003

A handwritten signature in cursive script, appearing to read "Brian Glessner", with a long horizontal flourish extending to the right.

BRIAN E. GLESSNER
PATENT EXAMINER